

**JUNE 16, 2014**

**"ENGINEER"**

**ARTICLE II - GENERAL PROVISIONS**

**1. GENERAL CONDITIONS**

It is expressly agreed and understood that the Engineer, including its agents, servants and employees, will be providing services under this Contract as an independent Engineer for the Authority, and neither the Engineer nor any of its agents, servants or employees will be an employee or agent of the Authority. All liability to persons actually providing services related to wages or any other compensation shall be the sole responsibility of the Engineer.

Nothing in this Contract except as specifically provided herein shall be construed as providing any control by the Authority over the management, operations and affairs of the Engineer during the term of this Contract. The Engineer, through its duly authorized officers and agents shall retain control of its management, operations and affairs, including, but not limited to, the hiring and firing of employees, their hours, rates of pay above minimum as provided by the Authority and conditions of employment and the manner in which the business of the Engineer is conducted during the term of this Contract, both in services provided as required under the Contract, and in other services rendered to others by the Engineer during the term of this Contract.

This Contract expresses the entire understanding of the parties hereto with respect to the subject matter hereof and there is no understanding, agreement, representation or warranty expressed or implied, oral or written in anyway limiting, extending or relating to the provisions hereof. No subsequent amendment limiting extending or relating to the provisions hereof shall be valid unless in writing and signed by duly authorized representatives of the parties hereto.

**2. AVAILABLE DATA AND MATERIALS**

All data applicable to this project in the possession of the Authority will be made available at no cost to the Engineer by the Authority. The Engineer will furnish all forms, cross section paper and other materials necessary for the preparation of plans, profiles and cross sections. They shall be of size and format conforming to Authority standards. The Engineer shall not be responsible for obtaining permits, licenses, or the like, required for the construction of the project except those required to permit the Engineer to do business in the jurisdiction where the services are to be performed.

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### **3. HEARINGS**

The Authority will be responsible for making all arrangements for and hold all necessary hearings in connection with the project, enter into all necessary agreements with railroads, public utilities, municipalities, agencies of the United States Government or others and make order of takings and financial settlements with owners of properties affected.

### **4. APPEARANCE AT HEARINGS**

The Engineer shall, when requested by the Assistant General Manager for Design and Construction, hereinafter referred to as the "AGM", or his designee, render such assistance as necessary, including making arrangements for hearings and preparation and explanation of sketches or plans, at or for any hearing or conference held by the Authority.

### **5. APPEARANCE AS A WITNESS**

If and when required by the Authority, the Engineer shall prepare for and appear in any litigation concerning this project on behalf of the Authority; the Engineer shall be paid reasonable and agreed upon costs and fees for its services and for any expenses incurred by it in relation thereto, which shall not be considered as covered by the ceiling price.

### **6. DURATION**

All work to be performed under this contract shall be completed within \_\_\_\_\_ (\_\_\_\_) months following notification to proceed with the work.

### **7. NOTICE TO PROCEED**

Unless otherwise authorized by the Authority, in no event shall the Engineer be compensated for services rendered prior to the date of receipt of a Notice to Proceed from the Authority authorizing commencement of the services.

Unless an extension is mutually agreed to in writing by both the Engineer and the Authority, the Engineer's performance shall continue through the time required to perform the initial scope of work and any task assignments.

## **8. TERMINATION OF CONTRACT**

- 8.1 The AGM may, by written notice to the Engineer, terminate this contract in whole or in part at any time, either for the Authority's convenience or because of the failure of the Engineer to fulfill his contract obligations. Upon receipt of such notice, the Engineer shall:
- 8.1.1 immediately discontinue all services affected (unless the notice directs otherwise) and
  - 8.1.2 deliver to the AGM all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the Engineer in performing this contract, whether completed or in process.
- 8.2 If the termination is for the convenience of the Authority, an equitable adjustment in the fixed fee shall be made, but no amount shall be allowed for anticipated profit on unperformed services. In addition to the adjusted fixed fee, the Authority shall pay the Engineer the allowable costs incurred prior to termination and any other costs reasonably incurred by the Engineer to implement the termination.
- 8.3 If the termination is due to the failure of the Engineer to fulfill his contract obligations, the Authority may take over the work and prosecute the same to completion by contract or otherwise. In such case, the Engineer shall be liable to the Authority for any additional cost occasioned to the Authority thereby.
- 8.4 If, after notice of termination for failure to fulfill contract obligations, it is determined that the Engineer had not so failed, the termination shall be deemed to have been effected for the convenience of the Authority. In such event, adjustment shall be made as provided in Section 8.2 of this clause.
- 8.5 The rights and remedies of the Authority provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

## **9. REVISIONS IN SCOPE OF WORK**

If during the term of this contract, the limits of the project are revised or other changes are made in the scope or character of the work to be performed, the Engineer shall

make the necessary changes only after receiving a written order from the AGM. In the event any change, individually or in combination with other changes, causes an increase or decrease in the estimated cost or time of performance of the services, the Engineer shall continue the performance of the services as changed and equitable adjustments shall be made in the allowable costs, fixed fee, ceiling price, time of performance and terms and conditions as applicable. The fixed fee shall be adjusted on account of such changes only if, in the aggregate, these changes have a substantial impact on cost or time of performance.

The terms "extra work" or "revisions" in the scope of work are defined as work which was not anticipated and/or contained in the contract; is determined by the Authority to be necessary for the proper completion of the contract; and bears a reasonable subsidiary relation to the execution of the work originally described in the contract.

In no case shall the Engineer proceed with any "extra work" without a written Notice to Proceed (either initial or full NTP), signed by the Assistant General Manager or General Manager. The Authority will issue no verbal authorization unless the authorization is immediately followed-up by a written Notice to Proceed.

If the Authority issues a partial Notice to Proceed, the Engineer must process the full amendment within 90 days of initial Notice to Proceed date. If the full amendment is not processed within 90 days from the date of the initial Notice to Proceed, the Authority reserves the right to process the amendment as a claim.

## **10. OWNERSHIP AND PREPARATION OF PLANS AND SPECIFICATIONS**

Data prepared by the Engineer under this contract such as plans, drawings, tracings, estimates, specifications, proposals, sketches, diagrams and calculations, together with all materials and data furnished to the Engineer by the AGM under the provisions of this contract, shall be returned to the AGM upon completion of the term of this contract as being the property of the Authority; and the Authority shall not be limited in any way in its use solely in connection with the project for which they were prepared. The Engineer shall not be liable for damages of any kind due to the reuse by the Authority, or any third party authorized by the Authority for any other project or purpose. If the Engineer shall desire later to use any of the data prepared by him in connection with this project, he shall first obtain the written approval of the AGM. The Engineer may retain copies of all data prepared by him and use the same in furtherance of his knowledge.



Plans and drawings prepared for the design submittal and approval stages (i.e. 30%, 60%, 90%, final contract bid documents, as-builts, etc.) will be prepared in CADD (Computer Aided Drafting Design) format acceptable to the Authority. Data will be submitted concurrently in both hard copy and electronic format on either CD or DVD. Plans and drawings will be created utilizing the latest version of AutoCAD. Other formats and media may be substituted upon prior written approval of the AGM, or his designee.

Specifications prepared for the design submittal and approval stages (i.e., 30%, 60%, 90%, and 100% final contract bid documents, and addenda) shall be prepared using the version of Microsoft Word being used by the Authority at the time of submittal, utilizing the latest version of the Authority's Contract Specifications Guidelines as the project source documents.

The Engineer shall submit construction cost estimates with the 30%, 60%, 90% and 100% design submittals. In addition, schedules identifying planned construction duration and milestones shall be submitted with the 60% submittal.

The Authority's current version of Contract Specifications Guidelines are to be downloaded from the Authority's web site at: [http://www.mbtta.com/business\\_center/bidding\\_solicitations/spec\\_guidelines/](http://www.mbtta.com/business_center/bidding_solicitations/spec_guidelines/) as directed by the MBTA Project Manager, at no additional cost to the Authority. A password to the Web based Contract Specifications Guidelines will be provided by the Authority, and is the responsibility of the Engineer.

Since the Authority will periodically update the Contract Specifications Guidelines, it is the Engineer's responsibility to ensure that the latest version of each master source document is used.

For the purpose of electronic distribution of bid documents, all documents must be submitted in electronic format. All text documents must be submitted in searchable Portable Document Format (.pdf) format. All plans/drawings must be submitted in PDF format with files meeting the standards of PDF/X-3 for black and white output, and PDF/X-1a standard for files including color. The required naming convention to be used for each .pdf file is: Contract No. \_\_\_\_ Plan No. \_\_\_\_ Sheet No. \_\_\_\_.

Submittal of the final contract bid specifications shall be in a high-quality, reproducible hard copy form and a single searchable Portable Document Format(.pdf)file. Submittal of each addendum shall also be in a single searchable Portable Document Format (.pdf) file.

Following construction contract award, the Engineer shall

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submit to the Authority the final conformed version of the contract specifications, with addenda, in hard copy form, and in an electronic form both as a single Microsoft Word file, as a single searchable .pdf file, and as AutoCAD files at no additional cost to the Authority.

All specification submittals shall be made in accordance with the Authority's Engineer Submittal Policies. This document contains requirements regarding Microsoft Word file formatting, file naming conventions, submittal of hard copy markups for review, preparation of final conformed specifications, etc.

Estimate and ancillary data shall be submitted concurrently on CD, and electronically via e-mail, utilizing Microsoft Word or Microsoft Excel. The ENG-104 (Engineer's Estimate) shall be produced using the Authority's Web based Bid Item Development System (BIDS), as directed by the MBTA Project Manager, at no additional cost to the Authority. A password to the Bid Item Development System will be provided by the Authority, and is the responsibility of the Engineer. Utilization of all BIDS functions and generation of information from the BIDS application is the responsibility of the Engineer.

All electronic submittals are for informational purposes and the convenience of the Authority. The official record copy of all such submittals shall be the hard copy form.

Once substantial completion is granted to the General Contractor, the Engineer shall incorporate all design changes made into the contract record set. The record set shall be used as the basis for the Contractor to identify as-built information. The Engineer shall work in conjunction with the General Contractor in preparing as-built plans for the Authority. Prior to Final Inspection, the Engineer shall verify that the as-built plans prepared by the Contractor are accurate and correct. At Contract Closeout, the Engineer will again verify that the finished as-built plans are complete and acceptable to submit to the Authority for recording.

## **11. SUBMISSION OF STAFFING SCHEDULE**

Within thirty (30) calendar-days after the start date specified in the Authority's Notice to Proceed, and in conjunction with submittal of the Engineer's Project Design Schedule for completion of the services within the time period specified in the Contract, the Engineer shall submit to the Authority for approval a Project Organization Chart and Staffing Schedule, time-phased by calendar month showing

the estimated labor hours, including those for Key Personnel, planned for the orderly performance and timely completion of each phase of the project.

Staff assignments and labor hours for each phase of the Contract shall be consistent with the Engineer's detailed Project Design Schedule as submitted to the Authority in accordance with Sections 12 and 50 and shall represent reasonable staffing resources to accomplish the scope and timing of the work.

The Engineer shall designate a scheduling representative on the Project Organization Chart. The scheduling representative is the person primarily responsible for development and maintenance of the Project Design Schedule, the Engineer's representative in all matters regarding the Project Design Schedule, and the designated attendee for all schedule related meetings during the design phase for the project. The Engineer shall notify the Authority of any changes to the person(s) designated as the scheduling representative. The scheduling representative shall meet the qualifications specified in Project Design Schedule and Earned Value Special Provision as set forth in Section 50.

Significant variations from the staffing plan submitted by the Engineer during negotiations shall be explained in writing by the Engineer.

## **12. SUBMISSION OF ENGINEER'S PROJECT DESIGN SCHEDULE AND PROJECT MONITORING REPORT**

The Engineer shall comply with the Project Design Schedule and Earned Value Special Provision as set forth in Section 50. Within thirty (30) calendar days after the start date specified in the Notice to Proceed, the Engineer shall submit to the Authority for review a Project Design Schedule. Each month for the duration of Design Phase Services the Engineer shall submit to the Authority a Project Design Schedule Update and a Progress Monitoring Report prepared in accordance with the Project Design Schedule and Earned Value Special Provision. The Project Design Schedule shall contain the activities along with the budgeted costs, which includes the estimated labor hours and rate, required to complete the Scope of Work. The Project Design Schedule Updates and the Project Monitoring Report shall show the Engineer's planned progress and earned physical progress for each design phase of the project, and any significant variation shall be explained in writing by the Engineer. The Project Design Schedule and Progress Monitoring Report shall be utilized by the Authority as a guide in evaluating the Engineer's performance on the project.

Within thirty (30) calendar days after the start of Construction Phase Services and for each month thereafter, the Engineer shall submit to the Authority for review a Progress Monitoring Report in a format mutually agreed to by the Authority and the Engineer. The Progress Monitoring Report shall contain the Scope of Work task breakdown and show both the planned and actual time phasing of labor hours by each Scope of Work task. The report shall compare the Engineer's scheduled progress to earned physical progress and any significant variation shall be explained in writing by the Engineer. The Progress Monitoring Report shall be utilized by the Authority as a guide in evaluating the Engineer's performance on the project during Construction Phase Services.

### **13. CHANGES**

The Authority may, at any time, by written change notice, make any change in the work within the general scope of this Contract, including but not limited to changes:

- a. in the drawings, designs or specifications;
- b. in the method or manner of the Engineer's work;
- c. directing acceleration or deceleration in the performance of the work; and
- d. in the time of performance of the work.

If at any time the Engineer believes that other acts or omissions of the Authority constitute a change to the work not covered by a change notice to proceed, the Engineer must within ten (10) business days of the occurrence of such act or omission, submit in writing a change notice request explaining in detail the basis for the request. The Authority will either issue a change notice or deny the request in writing.

If changes under this Section cause an increase in the Engineer's costs not covered in the initial change notice to proceed, the Engineer must present its claim to the Authority for an appropriate adjustment within ten (10) business days after receipt of the written change notice from the Authority. The Engineer's claim for increased costs shall be calculated by the Engineer on a cost plus fixed fee method of payment. If such change also impacts on the time of performance of any part of the work, the Engineer's claim shall also include a fully supported request for an appropriate adjustment of the Project Design Schedule. No change shall be effective nor shall the work proceed on a change unless it is authorized by a written agreement and signed by the Authority and Engineer. The Engineer shall not

be required to proceed with any change, without a signed Change Notice from the Authority.

In the event that no such written agreement has been executed by the parties prior to the performance of the work represented by the change, the Engineer shall not be entitled to and the Authority shall not be liable to the Engineer or its Sub-Consultants of any tier in tort (including negligence), or in contract for increased cost in connection with any changes or delays in the work.

No claim by the Engineer for an equitable adjustment hereunder shall be allowed unless the required notice has been given within ten (10) business days as specified. In no case shall a claim by the Engineer be considered if asserted after final payment under this Contract. Nothing in this clause shall excuse the Engineer from proceeding with the Contract as changed.

#### **14. EXCUSABLE DELAYS**

Should circumstances occur which are beyond the control and without the fault or negligence of the Engineer, such as an increase in the scope of work, or revisions to approved work ordered by the Authority, or a change in the conditions under which the work is to be performed caused by acts of God or the public enemy, acts of the Government in its sovereign capacity, fire, floods, epidemics, or unusually severe weather, the Engineer shall within three (3) business days of the commencement of any such delay, give to the Authority written notice thereof and within ten (10) business days of commencement of the delay, provide to the Authority the anticipated impact of the delay on the performance of the work, including its impact, if any, on the critical path milestones. Within ten (10) business days after the termination of any such delay, the Engineer shall file a written notice with the Authority specifying the actual duration of the delay. Failure to give any of the above notices shall be sufficient grounds for denial of an extension of time.

If the Authority determines that the delay was unforeseeable, beyond the control and without the fault or negligence of the Engineer and is a delay of consequence, i.e., one that affects the critical path, the Engineer and the Authority shall agree to a new completion date.

#### **15. WARRANTY**

The Engineer warrants that its work provided hereunder shall conform to the professional standards of care and practice exercised by comparable organizations engaged in performing comparable services, that the personnel furnishing such work shall be qualified and competent to adequately provide the

work assigned to them, and that the recommendations, guidance and performance of such personnel shall reflect such professional standards of care and practice. The Engineer agrees that its work hereunder shall be free from errors and omissions resulting from its failure to conform to the foregoing standards without limiting the generality or application of any provision in this Contract. If any such error or omission is discovered in any design, plan, drawing, specification, data, or other work product or services provided by the Engineer under this Contract, and such error or omission is the result of the Engineer's failure to conform to the foregoing standards, the Engineer shall forthwith correct any such error or omission in its work or work product at no additional cost to the Authority.

If any such error or omission is discovered in any design, plan drawing, specification, data or other work product or services provided by the Engineer after the Contractor has performed the work, the Engineer shall forthwith correct any such error or omission. This correction in its work or work product shall be at no additional cost to the Authority. In addition, the Engineer shall reimburse the Authority for additional construction costs to remove the incorrect work and reconstruct correctly. The Authority shall maintain documentation of design errors and omissions. All cost reimbursements by the Engineer to the Authority will be settled during the closeout phase of the construction contract.

## **16. QUALITY ASSURANCE PROGRAM**

The Engineer shall perform the work under this contract in accordance with the Engineer's Quality Assurance (QA) Program. The Engineer's QA Program shall be acceptable to the Authority. The Authority will base its judgment of acceptability, in part, on the QA Program's correspondence with appropriate provisions of the U.S. Department of Transportation Quality Assurance and Quality Guidelines (FTA-IT-90-5001-02.1). The Engineer shall submit the QA Program to the MBTA for approval, within 30 days of Contract award.

The Authority shall have access, with reasonable notice, to work being performed under this Contract for the purpose of performing Quality Assurance audits or surveillance. This shall include access to documentation (i.e. Audit Report, checklists, training records, etc.) of QA activities performed under the approved QA program.

In addition, all requirements of the Engineer's Quality Assurance Program shall be implemented for this design assignment including the following items:

- a. Performing an internal audit and associated report based on the Engineer's current Quality Assurance Manual
- b. Performing a documented peer/constructability review of the contract documents prior to bid

The Engineer shall complete all required tasks included in the Engineer's Quality Assurance Manual as part of the agreed compensation.

#### **17. SUBLETTING, ASSIGNMENT OR TRANSFER**

The Engineer shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof, or of his right, title, or interest therein, without written consent of the AGM. This written consent shall in no way relieve the Engineer from his primary responsibility for the performance of the work. If the Engineer makes any such assignments, pledges or other transfer without the written consent of the Authority, the contract may be terminated at the discretion of the Authority pursuant to Section 8.3.

#### **18. INSURANCE**

18.1 The Engineer shall carry Commercial General Liability Insurance for personal injury, bodily injury and property damage with limits not less than \$1,000,000 per occurrence covering all work performed under this Contract. This insurance shall cover:

- 18.1.1 All operations.
- 18.1.2 Contractual liability.
- 18.1.3 Use of watercraft, aircraft where applicable.

18.2 The Engineer shall carry Automotive Liability insurance including the use of all vehicles, owned, leased, hired and non-owned, with limits not less than \$1,000,000 combined single limit covering all work performed under this Contract.

18.3 The Engineer shall carry Worker's Compensation Insurance including Employers Liability insurance as provided by the Massachusetts General Laws, Chapter 152, as amended, covering all work performed under this Contract.

Such insurance shall contain a waiver of subrogation against the Authority.

18.4 The Engineer shall carry or show evidence of coverage secured by Subconsultants, Valuable Papers and Records Insurance with a minimum limit of \$100,000, to cover restoration or replacements of plans, drawings, computations, field notes and other data pertinent to

this contract.

- 18.5 Architect's and/or Engineer's Professional Liability Insurance shall be carried in an amount not less than \$1,000,000 covering losses arising from negligent acts, errors or omissions whenever committed for services performed under this Contract. Coverage must specifically extend to include liability assumed under this contract and shall specifically include, but not be limited to, coverage for: 1) boundary surveys, 2) subsurface investigations, 3) soil testing, 4) quantity surveys, 5) bridge work, 6) tunnel work; and 7) dam work when applicable.
- 18.6 The Engineer shall carry Umbrella Liability coverage with limits of not less than \$5,000,000 per occurrence covering all work performed by him under this Contract.
- 18.7 In the event that work is to be performed within 50 feet of track, the Engineer shall procure coverage known as Railroad Protective Insurance as specified as follows:
- 18.7.1 The Engineer shall furnish, with respect to the operations of the Engineer or any of the Engineer's Subconsultants performing within the Railroad right of way, broad form Railroad Protective Liability Insurance covering all work performed under this Contract in the amount of not less than \$5,000,000 per occurrence, \$10,000,000 aggregate combined bodily injury and property damage. The cost of this insurance will be reimbursed to the Engineer by the Authority as a direct expense.
- 18.7.2 The insurance herein before shall be written on an occurrence basis.
- 18.7.3 The Authority, CSX, Keolis, Pan Am Railways, Pan Am Southern and Amtrak shall each be named the insured unless otherwise directed by the Authority.
- 18.7.4 The Engineer shall furnish to the Authority and each of the railroad companies a signed original of the policy for Railroad Protective Liability prior to entry upon the railroad right of way.
- 18.7.5 All policies shall be endorsed to provide 30 days notice to each named insured by the insurance company before any change or cancellation of the policies.

18.7.6 The required Railroad Protective Insurance provided herein must be in the form commonly referred to as the AAR AASHTO Form (not Oregon).

18.8 Original policies and certificates shall be made out to the Authority, CSX, Keolis and Amtrak and mailed to:

MBTA: Treasurer-Controller  
Massachusetts Bay Transportation Authority  
10 Park Plaza  
Boston, MA 02116  
Tel. (617) 222-3064

Director of Contract Administration  
Massachusetts Bay Transportation Authority  
100 Summer Street, 12<sup>th</sup> Floor  
Boston, MA 02110  
Tel. (617) 222-3135

Amtrak: General Superintendent  
2 South Station, 195 Summer Street  
Boston, MA 02110  
Tel. (617) 722-3667

CSX: General Manager  
CSX Corporation  
1 Bell Crossing Road  
RD #2, Box 145  
Selkirk, NY 12158-9618  
Tel. (518) 767-6111

Pan Am Railways V.P. Transportation  
Pan Am Railways  
1700 Iron Horse Park  
North Billerica, MA 01862

Pan Am Southern V.P. Transportation  
Pan Am Southern  
1700 Iron Horse Park  
North Billerica, MA 01862

Keolis General Counsel  
Keolis Commuter Services, LLC  
470 Atlantic Avenue  
Boston, MA 02210  
Tel. (617) 849-7971

18.9 All policies should be written either on an occurrence basis or, claims made form, applicable renewals must have a retroactive date equal to the Contract start date

and must be maintained in force for two years following acceptance of all work performed under this Contract.

18.10 Insurance required of the Engineer shall be provided by or in behalf of all Subconsultants to cover their operations performed under this agreement. The Engineer shall be held responsible for all modifications, deviations or omissions in these insurance requirements as they apply to Subconsultants.

18.11 All insurance policies required herein with the exception of Professional Liability and Worker's Compensation shall name the Authority as an additional named insured as its interest appears under this Contract and waive any rights of subrogation against the Authority.

All insurance policies required herein shall be placed with insurance companies having a Best's rating of A- or better, shall be primary to any non-contributory to any insurance or self-insurance maintained by the Authority, shall not contain any exclusions for acts of terrorism, and shall fully cover any acts of terrorism, irrespective of whether such acts of terrorism are caused by domestic or foreign terrorists, and irrespective of whether such acts of terrorism are certified or non-certified by the Secretary of the Treasury, in concurrence with the Secretary of State and the Attorney General of the United States, to be an act of terrorism pursuant to the federal Terrorism Risk Insurance Act of 2002.

18.12 Certificates of Insurance, evidencing the coverage and conditions of this Contract, as well as the Authority's designated contract number, are to be furnished to the Authority's Director of Contract Administration at the time of authorization of the Contract. Coverage shall continue, with appropriate renewals of Certificates of Insurance, throughout the duration of the Contract. A minimum of 30 days notice shall be given to the Authority of any cancellation or major changes in this policy

18.13 Such policies shall provide that no cancellation of the insurance required to be furnished thereunder whether by insurers or by the insured, shall be valid unless written notice thereof is given to the Authority at least thirty (30) calendar days prior to the intended effective date thereof, which date shall be expressed in said notice. Notice of cancellation sent by registered mail, postage prepaid, with a return receipt of addresses requested, shall be sufficient notice. An

affidavit from any officer, agent, or employee, duly authorized by the insured shall be prima facie evidence that the notice was sent. This Section shall apply to the legal representative, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of the Engineer.

Failure to provide and continue in force any insurance as described in this Section shall be deemed a material breach of this Contract which shall be deemed at the Authority's option to constitute cause for immediate termination hereof.

18.14 Unless approved by the Authority, no insurance shall be secured from an insurer which:

18.14.1 Is not licensed to transact the business of insurance in Massachusetts; or

18.14.2 Is not authorized to provide insurance as an excess or surplus lines insurer in Massachusetts and does not have a current Best's rating of "A-" or better; or

18.14.3 Is not a risk retention group lawfully providing insurance to its members in Massachusetts.

18.15 The Engineer shall ensure that all designs are in compliance with the Authority's Insurance Provider at the time of the award of this contract. The Authority's current Insurance Provider is FM Global. The Engineer shall work with the MBTA Project Manager to coordinate with the MBTA Risk Manager to ensure compliance with all required design elements.

## **19. STAFFING OF OFFICE AND INSPECTION OF WORK**

During the performance of the work hereunder and if requested by the Authority, the Engineer shall maintain an office located within the confines of the Greater Boston Metropolitan Area. A majority of the Engineer's work effort, as measured by total job hours, shall be performed at or from that office by staff personnel assigned to the Engineer's Boston area office. If requested by the Authority, the Engineer's Project Manager and other key personnel with major areas of contract responsibility must be assigned full-time to the Engineer's Boston area office. The Engineer's Boston area office must have the capability of providing immediate response to Contract issues in all categories of the work through its resident, local office personnel.

Prior to the beginning of the work, the Engineer shall submit the names, titles, and actual salary rates of all personnel

to be assigned to the work. The Engineer represents that the key personnel named in this Contract are its bona fide employees, and will be assigned to the work to be performed under this contract. Any change in key personnel named in this contract, for reasons other than death, sickness, termination, or retirement will require prior written approval of the Authority. A Project Organization Chart shall be submitted to the MBTA Contract Administration Department upon award and at any time the Authority approves key personnel changes.

In addition to the above, education and experience records of key personnel who will actively participate in the work shall be submitted to the Authority. If, at any time during the term of this Contract, any key position is vacated, notice shall be immediately sent to the Authority as to the person vacating the position and the name, title, education, experience record and rate of pay of the person who will fill the vacancy. Prior written approval of the Authority for the change in key personnel must be received by the Engineer.

## **20. GENERAL COMPLIANCE WITH LAWS**

The Engineer shall perform the work required under this contract in conformity with requirements and standards of the Authority, municipal and railroad agencies whose facilities and services may be affected by the construction of this project. The project shall be so designed as to cause minimum interruption to said services. The Engineer shall also comply with all Federal, Commonwealth and local laws, rules, regulations and ordinances applicable to any of the work involved in this contract.

The Engineer shall, at the time of the 30% design submission identify all required Federal, State, local and other cognizant agency permits, licenses and environmental studies or statements which the Authority is required to file during the design phase of the project and prior to commencement of construction. The Engineer shall also submit a pedestrian access plan and identify whether a variance to the Architectural Access Board (AAB) regulations needs to be submitted. The Engineer shall prepare and submit a schedule which establishes a timetable for filing and assist the Authority in the preparation of the required documentation and applications to those agencies which have jurisdiction.

### **20.1 Environmental Management System**

The MBTA has an Environmental Management System (EMS). All consultants, contractors, service providers and vendors are required to comply with the MBTA EMS as well as all local, state and federal environmental

regulations.

#### **21. WARRANTY REGARDING COMMISSIONS**

The Engineer warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the Engineer, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, the Authority shall have the right to terminate this Contract without liability, or, in its discretion, to deduct from the Contract price without liability, or otherwise recover the full amount of any commission.

#### **22. EMPLOYMENT OF AUTHORITY PERSONNEL**

The employment by the Engineer of personnel on the payroll of the Authority will not be permitted in the execution of this contract, even though such employment may be outside of the employee's regular working hours or on Saturdays, holidays or vacation time; further, the employment by the Engineer of personnel who have been on the Authority payroll within one year prior to the date of contract award, where this employment is caused by and/or dependent upon the Engineer securing this or a related contract with the Authority, is also prohibited.

#### **23. PROHIBITIVE INTERESTS**

No Board Member, officer or employee of the Authority, officer or employee of any independent authority or political subdivision of the Commonwealth of Massachusetts, officer, employee or elected official of the Commonwealth of Massachusetts, executive or legislative officer of any city, county, or town within the 175 cities and towns serviced by the Authority during his/her tenure shall have any interest, direct or indirect, in this contract or the proceeds thereof.

#### **24. LODGING**

Every person employed in the work covered by this contract shall lodge, board, or trade where and with whom he elects; and neither the Engineer nor his agents or employees shall directly or indirectly require as a condition of employment therein that an employee shall lodge, board or trade at a particular place or with a particular person.

#### **25. INDEMNIFICATION**

- 25.1 The Engineer agrees to be solely responsible for all bills or claims for payment for services rendered by any subcontractors, associates or others employed by the Engineer for the services and materials employed in the Engineer's work.

The Engineer agrees to indemnify and save harmless the Authority and all of its officers, agents and employees against all suits, claims or liability of every name and nature arising out of or in consequence of negligent acts, errors or omissions of the Engineer or his personnel in the performance of the work covered by the contract and/or failure to comply with terms and conditions of this contract whether by himself, his associates, employees or subcontractors.

- 25.2 Engineer further agrees to indemnify and save harmless the Authority and all of its officers, agents and employees against any and all claims brought against the Authority to the extent the Engineer has infringed, or is alleged to have infringed, on any trademark, patent, copyright or any other intellectual property right or misappropriated any trade secret of any third party.

## **26. SALARY ADJUSTMENTS**

The Engineer shall submit to the Assistant General Manager for Design and Construction or his/her Designee a record of the salaries paid to the consulting staff or employees assigned to this project.

All salaries and increases, thereof, paid to engineering or technical employees assigned to this project shall be the result of a company-wide evaluation of all employees and shall not be restricted to employees assigned to this project.

If, in the opinion of the AGM, any salary or increase, thereof, of consulting personnel assigned to this project is unreasonable, he shall notify the Engineer of his opinion with regard thereto, and request the Engineer to justify said salary or increase, thereof. In the event that the Engineer furnishes reasonable justification for said salary or increase, thereof, then such salary or increase, thereof, shall be approved as a payroll expense.

The AGM shall have the right to exercise the power of review and approval of salaries and increases by the Engineer. Unless the AGM notifies the Engineer in writing that such salary or increase is, in his opinion, unreasonable, such

lack of notice shall constitute approval of said salary or increase, thereof, from the first day of the preceding month. All salary changes from those submitted on the previous notice shall be specifically noted by the Engineer.

It is understood that authorized representatives of the Authority and the Federal agency involved, if applicable, may inspect or review the Engineer's work, in progress, at any time.

## **27. PUBLICATION OF PLANS**

No copies or sketches or plans, including design plans in the formative stages, are to be released by the Engineer to any other person or agency except after prior approval of the Authority, except as necessary for the performance of the services. All press releases including plans and information to be published in newspapers, magazines, etc., are to be handled only through Authority-approved channels.

Furthermore, the Engineer, its subconsultants, or their employees shall not make any statements or announcements, release any photographs, or release any information concerning this Contract, or any part thereof to any member of the public, press, business entity, or any official body unless prior written consent is obtained from the Authority.

## **28. CONFLICT OF INTEREST**

- 28.1 No officer or employee of the Authority shall participate in any decision relating to this Contract which affects his/her personal interest or the interest of any corporation, partnership, or association in which he/she is directly or indirectly interested. No officer or employee of the Authority shall have any interest, direct or indirect, in the Contract or the proceeds thereof.
- 28.2 The Engineer understands that any person individually named to provide services under this Contract may become a special state employee subject to the provisions of Chapter 268A of the General Laws.
- 28.3 The Engineer is aware that performance of its work for the Authority (or any other entity) on the Contract may raise questions about conflicts of interests because of its business relationships with other entities or individuals, including without limitation, private and public owners of properties that abut or may be affected by this Contract or other Authority projects and other state-created entities with potentially conflicting interests and/or concerns.

Accordingly, the Authority reserves the right to require the Engineer to take any action necessary to remove the conflict or to terminate this Contract if, in the reasonable opinion of the Authority, any such business relationship would constitute, or have the potential to create a conflict of interest that cannot be remedied. In addition, representatives and/or employees of the Engineer will be required to agree to certify from time to time, in a form approved by the Authority, that in connection with the services under this Contract, they are in full compliance with the provisions of Chapter 268A of the General Laws and other applicable conflicts of interest laws.

The Engineer must disclose in writing any conflicts of interest occurring during the period of performance hereunder and, upon request of the Authority, supply a full and complete list of clients and/or other relationships. In such event, the Engineer shall consult with the Authority to learn what action must be taken to resolve such conflicts and comply with all applicable laws and policies.

## **29. LABOR PROHIBITING DISCRIMINATION**

The Engineer, sub recipient or subconsultant shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Engineer shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the Engineer to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Authority deems appropriate.

### **29.1 Civil Rights Requirements**

The Engineer agrees to comply with all applicable Federal and State statutes, rules and regulations prohibiting discrimination in employment including but not limited to the following:

#### **a. Nondiscrimination**

In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Engineer agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national

origin, sex, age, or disability.

The Engineer agrees to comply with Section 402 of the Vietnam-era Veterans Readjustment Assistance Act of 1974; the Age Discrimination in Employment Act of 1967; Section 504 of the Rehabilitation Act of 1973; Massachusetts General Laws Chapter 151B, Section 4(l); and all relevant administrative orders and executive orders, including Executive Order 227 and Executive Order 246.

In addition, the Engineer agrees to comply with applicable Federal implementing regulations and other implementing requirements the Federal Transit Administration (FTA) may issue.

b. Equal Employment Opportunity

The following equal employment opportunity requirements apply to the underlying contract:

(1) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Engineer agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Engineer agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Engineer agrees to comply with any implementing requirements the Federal Transit Administration may issue.

(2) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Engineer agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Engineer agrees to comply with any implementing requirements FTA may issue.

(3) Disabilities - In accordance with section 102

of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Engineer agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Engineer agrees to comply with any implementing requirements Federal Transit Administration may issue.

- c. The Engineer also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by Federal Transit Administration, modified only if necessary to identify the affected parties.

29.2 If a complaint or claim alleging violation by the Engineer of such statutes, rules and regulations is presented to the Massachusetts Commission Against Discrimination (MCAD), the Engineer and its agents agree to cooperate fully with MCAD in the investigation and disposition of such complaint or claim. The Engineer agrees to assume its legal fees and costs in connection with the defense of such claim.

29.3 In the event of the Engineer's noncompliance with the provisions of this Section, the Authority shall impose such sanctions, consistent with Federal and State statutes, rules and regulations as described in Section 29.1.

### **30. AUTHORIZATION LEVELS OF THE AUTHORITY**

The Board of Directors ("the Board") is authorized to approve the award of a contract or the issuance of Amendments, Change Orders or Extra Work Orders in the amount of \$15,000,000 or more.

The MassDOT Secretary and CEO (the "Secretary") is authorized to approve the award of a contract or the issuance of Amendments, Change Orders or Extra Work Orders in an amount less than \$15,000,000.

The General Manager and Rail & Transit Administrator is authorized to approve the award of a contract or the issuance of Amendments, Change Orders or Extra Work Orders in an amount not exceeding \$5,000,000.

The Assistant General Manager for Design and Construction is authorized to approve the award of a contract or the issuance

of Amendments, Change Orders or Extra Work Orders, in an amount not exceeding \$500,000.

The Chief Engineer and Senior Directors of Design and Construction are authorized to approve the issuance of Amendments, Change Orders or Extra Work Orders in an amount not exceeding \$250,000.

Directors of Design and Construction are authorized to approve the issuance of Amendments, Change Orders or Extra Work Orders in an amount not exceeding \$100,000.

Employees of the Authority are not authorized to request work to be performed or services to be provided other than as specified above. The Authority will not accept any responsibility whatsoever for work or services performed for which there is no specific proper authorization.

### **31. RESPONSIBILITY OF THE ENGINEER**

Neither the Authority's review, approval or acceptance of, nor payment for, any of the services required under this contract shall be construed to operate as a waiver of any rights under this contract or of any cause of action arising out of performance of this contract; and the Engineer shall be and remain liable to the Authority in accordance with applicable law for all damages to the Authority caused by the Engineer's negligent performance of any of the services furnished under this contract.

### **32. REQUIREMENTS OF THE FEDERAL TRANSIT ADMINISTRATION (FTA) OF THE U.S. DEPARTMENT OF TRANSPORTATION**

The following provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the following contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, dated November 1, 2008, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Engineer shall not perform any act, fail to perform any act, or refuse to comply with any Authority requests, which would cause the Authority to be in violation of the FTA terms and conditions.

#### **32.1 Access to Records and Reports**

The Engineer shall permit the authorized representatives of the grantee, the U. S. Department of Transportation and the Comptroller General of the United States, to

inspect and audit all data and records of the Engineer relating to his performance under this contract. The following access to records requirements apply to this Contract:

- 32.1.1 The Engineer agrees to provide the Authority, the FTA Administrator or his/her authorized representatives, including any PMO Engineer, access to the Engineer's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.
- 32.1.2 The Engineer agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Engineer which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.
- 32.1.3 Where the Contract was through means other than competitive bidding, the Engineer shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
- 32.1.4 The Engineer agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- 32.1.5 The Engineer agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Engineer agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of

all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

### 32.2 Federal Changes

The Engineer shall at all times comply with all applicable FTA regulations, policies, procedures and directive. These include without limitation those listed directly or by reference in the Master Agreement between the Authority and the FTA, as they may be amended or promulgated from time to time during the term of this contract. The Engineer's failure to comply shall constitute a material breach of contract.

### 32.3 No Obligation by the Federal Government

The Authority and Engineer acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Authority, Engineer, or any party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Engineer agrees to include the above clause in each subcontract financed in whole or in part with the assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractors who will be subject to its provisions.

### 32.4 Lobbying Restrictions and Certification

#### Interest of Members of or Delegates to Congress

No member of or delegate to the Congress of the United States shall be admitted to any share or part of this contract or to any benefit arising therefrom.

#### Interest of Public Officials

No member, officer or employee of the public body or of a local public body during his tenure or for one year thereafter shall have any interest, direct or indirect, in this contract or the proceeds thereof.

#### Lobbying Certifications

Modifications have been made to the Clause pursuant to  
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Section 10 of the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, *et seq.* ]

#### Lobbying Certification and Disclosure of Lobbying

Activities for third party Engineers are mandated by 31 U.S.C. 1352(b)(5), as amended by Section 10 of the Lobbying Disclosure Act of 1995, and DOT implementing Regulation, "New Restrictions on Lobbying," at 49 CFR § 20.110(d)

The language in the Lobbying Certification is mandated by 49 CFR Part 19, Appendix A, Section 7, which provides that Engineers file the certification required by 49 CFR Part 20, Appendix A. (*See Attachment H*)

Modifications have been made to the Lobbying Certification pursuant to Section 10 of the Lobbying Disclosure Act of 1995.

The use of "Disclosure of Lobbying Activities," Standard Form-LLL set forth in Appendix B of 49 CFR Part 20, as amended by "Government wide Guidance For New Restrictions on Lobbying," 61 Fed. Reg. 1413(1/19/96) is mandated by 49 CFR Part 20, Appendix A.

Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L.104-65 [to be codified at 2 U.S.C. § 1601, *et seq.*]

Engineers who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the Authority.

#### 32.5 Program Fraud and False or Fraudulent Statements and Related Acts

32.5.1 The Engineer acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Engineer certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA-assisted project for which this contract work is being performed.

In addition to other penalties that may be applicable, the Engineer further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Engineer to the extent the Federal Government deems appropriate.

32.5.2 The Engineer also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Engineer, to the extent the Federal Government deems appropriate.

## 32.6 Environmental, Resource Conservation, Energy Conservation

### 32.6.1 Clean Air

The Engineer agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 *et seq.* The Engineer agrees to report each violation to the AUTHORITY and understands and agrees that the AUTHORITY will, in turn, report each

violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Engineer also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

#### 32.6.2 Clean Water Requirements

The Engineer agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Engineer agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

The Engineer also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

#### 32.6.3 Recycled Products

The Engineer agrees to comply with all the requirements of Section 6002 the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962). This includes but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

#### 32.7 Disadvantaged Business Enterprise (DBE)

In connection with the performance of this contract, the Engineer shall cooperate with the project sponsor in meeting his commitments and goals with regard to disadvantaged business enterprises and will use its best efforts to ensure that disadvantaged business enterprises shall have the opportunity to compete for subcontract work under this contract.

Only SDO-certified Disadvantaged Business Enterprises will be counted toward the DBE goal on federally funded projects.

### 32.8 Accessibility for Mobility Impaired

Work performed by the Engineer shall be in compliance with the provisions of 49 CFR, Chapter VI, Part 609 (Transportation for Elderly and Handicapped Persons), Sec. 609. 13 (Fixed Facilities), and all other applicable federal codes.

### 32.9 Fly America

The Engineer agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their Engineers are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act.

The Engineer shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements.

The Engineer agrees to include the requirements of this Section in all subcontracts that may involve international air transportation.

### 32.10 Seismic Safety Requirements

The Engineer agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standard for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by regulation. The Engineer also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

### 32.11 Requirements of American Recovery and Reinvestment Act of 2009 (ARRA)

#### 32.11.1 Notice to Engineer

The requirements of this Section 32.11 shall apply in the event that this contract or any portion thereof is funded with Federal-aid funds authorized under the American Recovery and Reinvestment Act of 2009 (the "Recovery Act" or "ARRA"). The Engineer and subconsultants are advised to carefully review all ARRA and contract requirements prior to award, and to keep complete and accurate records of all spending. The Engineer and subconsultants shall be responsible for complying with the applicable provisions of ARRA which are incorporated herein by reference.

#### 32.11.2 Notification of the Authority of the U.S. Comptroller General

Section 902 of ARRA requires that each contract awarded using ARRA funds must include a provision that provides the U.S. Comptroller General and his representatives with the authority:

- 1) to examine any records of the Engineer or any of its subconsultants, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the subcontract; and
- 2) to interview any officer or employee of the Engineer or any of its subconsultants, or of any State or local government agency administering the contract, regarding such transactions.

Accordingly, the Comptroller General and his representatives shall have the authority and rights as provided under Section 902 of ARRA with respect to this contract. Section 902 further states that nothing in this Section shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

#### 32.11.3 Notification of the Authority of the Inspector General

Section 1515(a) of ARRA provides authority for any representatives of the Inspector General to examine any records or interview any employee or officers working on this contract. The Engineer is advised that representatives of the Inspector General have the authority to examine any record and interview any employee or officer of the Engineer, its subconsultants

or other firms working on this contract. Section 1515(b) further provides that nothing in this Section shall be interpreted to limit or restrict in any way any existing authority of the Inspector General.

#### 32.11.4 Whistleblower Protection

The Engineer must post in a conspicuous place on the jobsite, notice of protection from reprisals and rights for whistleblowers as provided by Section 1553 of the ARRA.

#### 32.11.5 Reporting Requirements for ARRA Projects

In the event that the Contract is funded with Federal-aid funds authorized under ARRA special reporting requirements will be required. The form and frequency of reporting has not yet been finalized, but the Engineer and any subconsultants should expect, at a minimum, monthly reporting of employment information, hours worked and payroll amounts, in addition to the standard reporting required under Federal-aid contracts.

In order to meet the reporting requirements of ARRA, the Engineer and any subconsultants are required to report monthly employment information, including but not limited to: the number of employees working on the ARRA project (subtotal by new-hire and existing), total hours for these employees (subtotal by new-hire and existing) and total wages for these employees (subtotal by new-hires and existing). All data shall be submitted electronically in a format acceptable to the Authority not later than 5 calendar days after the end of the month.

Failure to submit this data will result in withholding the contract payments until the required information for that payroll period is received.

At any time during the project the information being reported may be required to be submitted in a different format, at a different time period, and/or to a different location. In addition, the Engineer is advised to review all reporting requirements under Section 1512 of ARRA. There may also be additional reporting requirements that the Engineer and any subconsultants shall be required to comply with. Notice of these will be provided as soon as details become available.

There will be no direct payment for recording and reporting of this information. All costs associated

with this provision shall be considered incidental and included under the various contract pay items.

#### 32.11.6 CCR Registration

Since October 1, 2003, it is federally mandated that any organization wishing to do business with the federal government under a FAR-based contract must be registered in the Central Contractor Registration (CCR) before being awarded a contract. Under ARRA all recipients, sub-recipients, and contractors must have Dun and Bradstreet Data Universal Numbering System (DUNS) Number and CCR registration. Information on CCR and the registration process can be found in their User's Guide (<http://www.ccr.gov>). The Engineer must maintain current CCR registration at all times during which they have active contracts funded with Recovery Act funds.

#### 32.11.7 Other Federal Requirements:

It is the responsibility of the Engineer and all subconsultants to comply with all Federal, State and local requirements, including but not limited to those specific to projects funded by the Recovery Act.

#### 32.12 Design for Buy America

The Engineer shall design the project in a manner that ensures compliance with Buy America requirements. [49 CFR Part 661, "Buy America Requirements" and 49 CFR Part 663, "Pre-Award and Post-Delivery Audits of Rolling Stock Purchases".

### **33. REQUIREMENTS OF THE COMMONWEALTH OF MASSACHUSETTS' ARCHITECTURAL ACCESS BOARD**

Work performed by the Engineer shall be in compliance with 521 CMR, Rules and Regulations of the Architectural Access Board.

### **34. ANTI-BOYCOTT COVENANT**

The Engineer warrants, represents and agrees that during the time this contract is in effect neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engages in conduct declared to be unlawful by Section 2 of Chapter 151E, Massachusetts General Laws. If there shall be a breach in the warranty, representation and agreement

contained in this Section, then without limiting such other rights as it may have the Authority shall be entitled to rescind this contract. As used herein, an affiliated company shall be any business entity of which: at least 51% of the ownership interests are directly or indirectly owned by the Engineer or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interest of the Engineer or which directly or indirectly owns at least 51% of the ownership interests of the Engineer.

### **35. CERTIFICATIONS**

The Engineer hereby certifies and warrants, to the best of their knowledge, the truth, accuracy and completeness of the following documents filed with the Authority in connection with this Contract as appended hereto and which are made a part of this Contract:

- 35.1 Attachment A: Conflict of Interest Disclosure Statement
- 35.2 Attachment B: Current SDO (f.k.a. SOWMBA) Certification Letter
- 35.3 Attachment C: DBE Schedule of Participation
- 35.4 Attachment D: DBE Affidavit
- 35.5 Attachment E: DBE Unavailable Certification(if applicable)
- 35.6 Attachment F: Disadvantaged Business Enterprise Participation - Letters of Intent
- 35.7 Attachment G: Certification Relative to Debarment
- 35.8 Attachment H: Certification of Restriction on Lobbying
- 35.9 Attachment I: Child Care Certification
- 35.10 Attachment J: Affidavit of Non-Collusion
- 35.11 Attachment K: Financial Determination Statement
- 35.12 Attachment L: OSHA Training
- 35.13 Attachment M: Executive Order 481 Prohibiting Use of Undocumented Workers
- 35.14 Attachment N: MBTA Retiree Disclosure
- 35.15 Attachment O: Owner's Representative (if applicable)

### **36. POLITICAL ACTIVITY PROHIBITED**

None of the work to be provided by the Engineer shall be used for any partisan political activity or to further the election or defeat of any candidate for public office.

### **37. SUBCONTRACTING**

None of the work to be provided by the Engineer pursuant to this contract shall be subcontracted or delegated in whole or in part to any other organization, association, individual, corporation, partnership or other such entity without the prior written approval of the Authority. No subcontract or delegation shall relieve or discharge the Engineer from any obligation or liability under this Contract except as specifically set forth in the instrument of approval.

If the complexity and nature of the work are such as to require highly specialized professional or expert assistance, services or advice in connection with special phases of work which normally are not the type performed directly by the Engineer, such work may be obtained by subcontract, provided that prior written approval is received from the Authority.

The Engineer warrants that its subcontracts with subconsultants shall bind each subconsultant to all provisions of this Contract to the extent that the regulations, rights and interests of the Authority and if applicable, the FTA may be affected; and the Engineer accepts legal and financial responsibility for any failures to so protect and enforce the regulations, rights and interests of the Authority and the FTA.

The Authority reserves the right to approve any changes in subconsultants or changes in the amounts or rates of cost reimbursement of any Subcontract.

Requests for approval of work to be subcontracted after Contract execution must include a clear description of the work to be performed, capabilities of the subconsultant to perform such work, breakdown of costs and job hours, method of payment and maximum amount to be paid.

No subconsultant agreement awarded by Engineer shall create any relationship between any such subconsultant and the Authority. The Engineer shall act as an independent Engineer and not as the agent of the Authority in performing the work hereunder, maintaining complete control over its employees and any and all of its subconsultants or agents of any description or tier.

**38. DISADVANTAGED BUSINESS ENTERPRISES, EQUAL EMPLOYMENT OPPORTUNITY, AND AFFIRMATIVE ACTION**

This Section is in addition to and not a replacement of any other portion of the language of this Contract dealing with Disadvantaged Business Enterprises, Equal Employment opportunity, or Affirmative Action.

38.1 The Engineer shall provide information and reports requested by the Authority pertaining to its obligations under this Section, or other similar requirements of this Contract, and will permit access to Contract-related records, accounts and other relevant sources of information as necessary to determine the Engineer's compliance with the obligations hereunder.

38.2 The Engineer shall comply with all regulations relative to nondiscrimination in federally assisted programs of the U.S. Department of Transportation and the Authority as they may be amended from time to time and which are hereby incorporated by reference and made a part of this Contract.

38.3 It is the policy of the United States Department of Transportation that disadvantaged business enterprises

shall have the opportunity to participate in the performance of contracts financed in whole or in part with federal funds as under this Contract. The Authority and the Engineer agree to ensure that disadvantaged business enterprises have the opportunity to participate in the performance of subconsultant agreements financed in whole or in part with federal funds provided under this Contract.

Notwithstanding the provisions of 49 CFR Part 26, the Engineer unless stated otherwise, shall achieve a goal of \_\_\_\_\_ percent (\_\_\_\_ %) of the total contract ceiling price for Disadvantaged Business Enterprise participation in this Contract.

### **39. OBTAINING RIGHT OF ACCESS OR ENTRY**

With regard to its work in the field, the Engineer agrees not to enter upon any private or public property without obtaining prior Rights of Entry in writing from the property owner (or its authorized agent), or from the appropriate Public Agency.

Prior to the start of any visit to a work site in the field, the Engineer shall meet with the Authority to discuss all aspects of entry on to the property of others in pursuing the Engineer's field activities under this Contract. The Authority will assist the Engineer and all other parties working at the various field sites in coordination of all such activities.

### **40. SAFETY**

The Engineer shall be fully and solely responsible at all times for conducting all its field operations under this Contract in a manner to avoid the risk for bodily harm to persons and damage of property. In this regard, the Engineer shall become familiar with and be in full conformance during the performance of its work with all applicable Federal, State and local labor, occupational safety and health laws and regulations.

The Engineer shall prepare a company Safety Policy and prepare project-specific Safety Procedures and shall enforce their use for any of its work to be accomplished in the field at the work site(s). The Engineer's Safety Policy and Procedures shall be submitted to the Authority for its review prior to commencement of work.

Nothing herein shall be construed as placing responsibility for site safety or for the safety of anyone other than its employees and subconsultant employees upon the Engineer.



#### **41. ACCEPTANCE**

Upon completion of each phase of the services, the Engineer shall notify the Authority in writing of the date of said completion and request confirmation of same by the Authority. The Authority shall be deemed to have concurred with the Engineer's notice except for such items as the Authority may include in a written list furnished by the Authority to the Engineer within ninety (90) days following the Authority's receipt of the Engineer's notice.

#### **42. DELAYS**

Neither party hereto shall be considered in default in the performance of its obligations hereunder to the extent that the performance of any such obligations is prevented or delayed by any cause which is beyond the reasonable control of such party.

#### **43. CONSTRUCTION COST ESTIMATES**

Inasmuch as the Authority must rely on the Engineer's Construction cost estimates to determine whether it desires to go forward with all or part of the construction, the Engineer is expected to engage competent, experienced, Professional estimators throughout the project in order to assess construction cost and in order to assess design impacts throughout the project. The Engineer, upon request, shall furnish the names and experience of the Professional estimators.

The Engineer's Estimate will be prepared at the 30%, 60% and 100% design phases and undergo a peer review. The review team will consist of an independent cost and schedule consultant, the MBTA Project Manager, Director of Design & Construction and Director of QA/QC. The estimator will be required to prepare a standardized peer review package, which will be issued one (1) week prior to the peer review meeting. The estimator will present the full basis for the estimate in conjunction with the design consultant. The topics to be included as part of the peer review package are as follows:

- Scope of Work Statement
- Schedule Requirements
- Limitations of Operations (milestones and access restraints)
- General estimate basis and assumptions
- Assumed construction approach
- Pricing basis

- Estimate details
- Estimate comparisons (including MBTA historic cost items)
- Estimate exclusions
- Constructibility and operability
- Elements of risk and associated costs with recommended approach to account for each type of risk identified
- Determination of contingency levels
- Liquidated damages

Estimates which indicate construction cannot be accomplished within Authority established budgets shall be addressed in a manner satisfactory to the Authority in order to bring the work within the Authority's budget and shall be completed at no additional cost to the Authority. The Engineer agrees that if general bids received exceed the Engineer's final design construction cost estimate by more than ten percent (10%), the Engineer shall redesign the work, if directed by the Authority, at no additional cost to the Authority. The Authority reserves the right to rebid the Project after the design changes have been incorporated into the Contract documents. If the Project is rebid, this Section shall continue in force until a low responsible bid is received which does not exceed the construction cost for the Project by more than ten percent (10%).

#### **44. CHILD CARE PROVISION**

The Engineer shall fully comply with and certify (as attached) to Section 7 of Massachusetts General Law, Chapter 521 of the Acts of 1990 as amended by Chapter 329 of the Acts of 1991 and the Massachusetts Executive Office of Health and Human Services Office of Children Regulations 102 C.M.R. 12.00. This Act has been codified at Massachusetts General Laws, Chapter 28A, Section 5.

#### **45. GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)**

45.1 Certification Regarding Debarment, Suspension, and Other Responsibility Matters lower Tier Covered Transactions (Third Party Contracts over \$25,000).

Instructions for Certification:

- By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below.
- The certification in this clause is a material

representation on which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Authority may pursue available remedies, including suspension and/or debarment.

- c. The prospective lower tier participant shall provide immediate written notice to the Authority if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "persons", "principal", "proposal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the Authority for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the Authority.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its

principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs issued by U.S. General Service Administration.

- h. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under Paragraph e. of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies
- j. Available to the Federal Government, the Authority may pursue available remedies including suspension and/or debarment.

#### 45.2 Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

##### Lower Tier Covered Transaction:

- a. The prospective lower tier participant certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 49 C.F.R. § 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- b. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

#### 46. JURISDICTION AND VENUE

This agreement, and the transactions to which it relates, will be governed by and construed and enforced in accordance

with the laws of the Commonwealth of Massachusetts. Any claims or legal actions by one party against the other shall be commenced and maintained in any state or federal court located in Massachusetts and both parties hereby submit to the jurisdiction and venue of any such court.

#### **47. COST OF PROPOSAL PREPARATION**

The Authority shall not be liable for any cost or expenses incurred for the preparation of the proposal in response to the RFP. Offerors shall not include such expenses as part of the price proposed. The Authority shall be held harmless and free from any and all liability, claims and expenses whatsoever, incurred by or on behalf of, any person or organization to the RFP.

#### **48. SUBCONTRACTS**

The Engineer will cause all foregoing provisions to be inserted in all subcontracts for any work covered by this contract so that such provisions will be binding upon each subcontractor, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials or to individual consultants.

#### **49. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION TRAINING**

The Engineer agrees to comply with M.G.L. Chapter 30 Section 39M as amended by Chapter 306 of the Acts of 2004 related to the United States Occupational Safety and Health Administration personnel training.

#### **50. PROJECT DESIGN SCHEDULE AND EARNED VALUE SPECIAL PROVISION**

This Special Provision sets forth requirements for the use of Earned Value Management System (EVMS) in conjunction with the development, updating, and submittal of the Engineer's Project Design Schedule for Design and Engineering Phase services. This Special Provision is applicable to all design projects unless otherwise directed in writing by the Assistant General Manager for Design and Construction. The requirements for the EVMS described in this Special Provision is based on information found in the American National Standards Institute (ANSI) EIA-748-B dated September 10, 2010. The EVMS shall meet at a minimum 10 criterion from the ANSI EIA-748-B described in Appendix A. The Engineer shall use the EVMS to monitor project costs from the start of conceptual phase services to the end of the final design phase service.

## 50.1 Project Design Schedule Submittal

### 50.1.1 Scheduling Representative

Prior to the submission of the Project Design Schedule, the Engineer shall designate a scheduling representative during the design phase for the project. The scheduling representative is the person primarily responsible for development and maintenance of the Project Design Schedule, the Engineer's representative in all matters regarding the Project Design Schedule, and the designated attendee for all schedule related meetings. The Engineer shall notify the Authority of any changes to the person(s) designated as the scheduling representative.

The Engineer shall submit the qualifications of the scheduling representative to the Authority for approval. This approval is required before the Project Design Schedule will be accepted. The scheduling representative shall have experience in project controls, specifically cost and resource loading schedules along with performing an earned value analysis on projects using Oracle Primavera Scheduling Software® or equivalent Critical Path Method (CPM) schedule software.

### 50.1.2 General Requirements

Within thirty (30) calendar-days after the start date specified in the Notice to Proceed, the Engineer shall submit a detailed Project Design Schedule (PDS) to the Authority for review and acceptance. The PDS shall detail the activities required to complete Design Phase Services within the time period specified in the Contract. The PDS shall be a computerized **cost loaded** CPM Schedule showing the estimated cost and duration of each activity for all phases of the design work. The Engineer shall cost-load the PDS by developing cost accounts for specific design scope items and assigning a cost value to each activity in the PDS. The cost value assigned to the activity shall be designated as the "Budget-At-Completion" (BAC). The BAC for each activity shall represent an allocation of the total project budget for the Design and Engineering Phase. The Engineer shall base the BAC on the labor rates and hours to complete each activity as determined by the Engineer or negotiated with the Authority. The Engineer shall submit a *Cost Accounting Standard Disclosure Statement* that details the procedures used to ensure the budget for each cost account is consistent and properly recorded in the Engineer's general cost accounting system for the design work planned to be performed by the Engineer and its Subconsultants.

The Engineer shall use the current version of Oracle Primavera Scheduling Software® or equivalent CPM schedule software to develop the PDS. The schedule software shall have the capability to identify the critical activities along longest path of work through the schedule network for the project. The schedule software shall run on PC compatible equipment and be compatible with Microsoft Windows® based software. The software shall be capable of processing and plotting the progress of the work, determining the earned value of the work performed by the Engineer on a monthly basis, and comparing the progress and earned value of the work shown in multiple updates submitted by the Engineer.

The PDS submittal shall include an electronic computer disk with the schedule data files for the PDS and the following documents:

- a. Time scaled diagram with a scale and format that is acceptable to the Authority;
- b. Budgeted Cost Curve;
- c. Work Breakdown Structure;
- d. Schedule Tabular Reports and Cost Control Reports with at a minimum the following reports sorted by:
  1. Predecessor/successor,
  2. Early Start/Total Float,
  3. Total Float/Early Start,
  4. Critical Path of Work, and
  5. Summary by Cost Account sort report.
- e. Written Narrative (WN) shall explain the sequence of design work, the critical or longest path of work, interim completion dates and phasing, significant dates that require actions by the MBTA or others, critical action items, and adequacy of the design budget. The narrative shall also describe how the PDS provides for permit requirements, environmental requirements, coordination with other public agencies, third parties, i.e. businesses, community, property owners, milestone dates (for the design phases or other related work significant to the design), and coordination with all utility companies. Explain the specific scope of each design phase and the basis used to determine the original duration of each phase. The WN shall provide a description of the design alternatives included in the design or presented separately for the Authority for review.
- f. The method used to determine the percent complete for each milestone deliverable based on earned value (Note: The method the Engineer uses to determine the percent complete shall be based on the physical progress of the work not the actual costs incurred as compared to the planned budget for an activity),

- g. Printed Calendars with a listing, description, and calendar form tabulation of all calendars used. Include the total number of anticipated work days required to complete the design work.

The Engineer shall submit to the Authority four hard copies of items a through g. The Engineer may submit electronic copies of items a, through g, in a pdf format, if acceptable to the Authority. Upon acceptance of the PDS by the Authority, the PDS shall become the *Baseline Project Design Schedule of Record* (PDS Baseline). The PDS Baseline shall be used to assess the Engineer's reported progress in the PDS updates, as described in Section 50.2.

### 50.1.3 Activity, Milestone, Work Breakdown Structure Requirements

In the PDS, the Engineer shall develop and layout project-specific activities, Milestones, durations, and phasing to meet the scope and earned value requirements of a project. An example of the layout for the PDS is shown in Figure 1. The Authority shall review the PDS Baseline and may require the Engineer to revise the PDS to add activities or Milestones, change activity descriptions, and modify activity relationships and logic to reflect the scope requirements and expected work sequencing.

| Activity ID             | Activity Description | Orig.<br>Dur. | Rem.<br>Dur. | Percent<br>Complete | Early<br>Start | Early<br>Finish | Total<br>float | Budgeted<br>Cost<br>(BAC) | Planned<br>Value<br>Cost<br>(BCWS) | Actual<br>Cost<br>This<br>Period<br>(ACWP) | Earned<br>Value<br>Cost<br>(BCWP) | Schedule<br>Variance<br>(BCWP -<br>BCWS) | Cost<br>Variance<br>(BCWP -<br>ACWP) |
|-------------------------|----------------------|---------------|--------------|---------------------|----------------|-----------------|----------------|---------------------------|------------------------------------|--------------------------------------------|-----------------------------------|------------------------------------------|--------------------------------------|
| Phase identified in WBS |                      |               |              |                     |                |                 |                |                           |                                    |                                            |                                   |                                          |                                      |
| 000000                  | Activity Title       | TBD           | TBD          | TBD                 | TBD            | TBD             | TBD            | TBD                       | TBD                                | TBD                                        | TBD                               | TBD                                      | TBD                                  |

Figure 1 – Layout for Project Design Schedule

#### 50.1.3.1 Activity

The PDS shall include the budgeted cost and duration to complete each activity along with the sequence and logic for each activity from Notice to Proceed to the start of Construction Phase Services. The Engineer shall refer to the description of each task in the Request for Proposals Design Services (RFP), Scope of Services section to develop the appropriate activities for each phase of the design work.

#### 50.1.3.2 Milestones

The Engineer shall include a Milestone for each Phase of the design work. The Engineer shall refer to the description of each phase in the Request for Proposals Design Services (RFP), Scope of Services section to develop the appropriate milestones for design work. The Engineer may include the following Phases:

1. Phase 1 - Conceptual Engineering Plan (0-15%)
  - a. Phase 1A - Community Participation and Interagency Coordination
  - b. Phase 1B - Conceptual Design
  - c. Phase 1C - Schematic Design
2. Phase 2 - Preliminary Design (15-30%)
3. Phase 3 - Design (30-60%)
4. Phase 4 - Design (60-90%)
5. Phase 5 - Final Design (90-100%)
6. Phase 6 - Bid and Award (End of Design Phase Services)

### 50.1.3.3 Work Breakdown Structure

A multi-level hierarchal Work Breakdown Structure (WBS) shall be incorporated into the PDS. An example of a WBS multi-level hierarchy is shown in Figure 2.

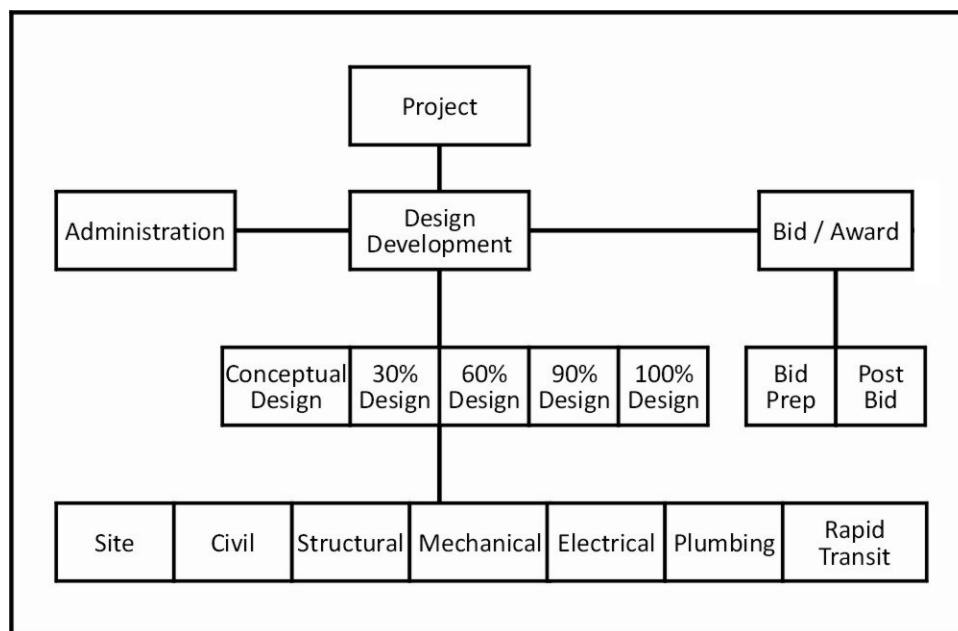


Figure 2 - WBS Multi-Level Hierarchy

The WBS is a deliverable-oriented grouping of the work elements, which organizes and defines the total scope of the design. The WBS includes descending levels of the work, which represents an increasingly detailed definition of the design components. The levels shall include, but not be limited to:

Level 1: Project design;

- Level 2: Three categories: Administrative activities, Design Development activities, and Bid and Award activities;
- Level 3:
  - a. Design Development Milestones with five categories, Conceptual Design activities, 30% Design activities, 60% Design activities, 90% Design activities, and 100% Design activities;
  - b. Bid and Award categories for Bidding preparation activities and post-Bid and Award activities
- Level 4: Specific types of design work categories that may include Site, Civil, Structural, Mechanical, Electrical, Plumbing, and Rapid Transit Construction for the Level 3 categories.

The Authority may require the Engineer to add levels to the WBS to reflect specific item of design work for the project.

## **50.2 Project Design Schedule Updates**

### **50.2.1 Requirements for PDS Update**

Upon acceptance of the Baseline PDS, the Engineer shall submit monthly schedule updates identified as the *Project Design Schedule Update* (PDS Update). The submission of the PDS Update is a prerequisite to processing the Partial Payment Request. The PDS Update shall reflect the Engineer's progress of work on the data date. Each PDS Update shall include an electronic computer disk with the Engineer's schedule data files (including activity data, logic, WBS coding, and cost data) and a Progress Monitoring Report prepared in accordance with Section 50.2.4. The Authority shall review, provide comments and return the PDS Update to the Engineer as "accepted," accepted as noted," or "revise and resubmit." If necessary, the Authority and Engineer shall meet to discuss the progress of work as of the data date prior to the submission or resubmission of the PDS Update. Upon acceptance by the Authority, the PDS Update shall become the *Progress Schedule of Record* for the period between its data date and the data date of the next approved update or revision.

If the PDS Update submittals are returned to the Engineer for corrections or revisions, the Engineer shall revise and resubmit the PDS Update submittal to the Authority for review

within ten (10) business days from the date returned by the Authority.

#### 50.2.2 Progress of the Design Work

The Engineer shall provide for the Authority's review and acceptance the proposed deliverables and method it plans to use to measure the percent complete for each activity in the PDS. The Engineer shall refer to the description of each phase and task in the RFP's Scope of Services section to develop the appropriate method for measuring and quantifying the progress of the design work. The actual percent complete shall be based on the physical progress of the work completed by the data date, not the actual cost incurred.

#### 50.2.3 Earned Value Analysis

Each month the Engineer shall perform an earned value analysis (EVA) using the cost and schedule software specified in Section 50.1. The Engineer shall include the results of the EVA in the Progress Monitoring Report as described in Section 50.2.4.

The EVA shall be based on the following data in the PDS at the data date:

- a. Actual start and finish for each activity as of the data date.
- b. The progress of the activities that started, but are not finished on the data date.
- c. Percent complete of the work for each activity from the start date to the data date.
- d. Actual cost expended for each activity as of the data date.

The Engineer's *Cost Accounting Standard Disclosure Statement* shall include the procedures used to ensure the actual value of each cost account in the PDS Update was properly represented and timely recorded in the Engineer's general cost accounting system for the design work completed by the Engineer and its Subconsultants. If the subconsultant actual cost data is not available prior to the submission of the PDS Update, the Engineer shall estimate the Subconsultant's actual cost as of the data date for PDS Update. The Engineer shall confirm the actual cost from the Subconsultants prior to the submission of the next PDS Update.

The Engineer shall use the cost accounts and scheduling data in the PDS Update to calculate and show the results of each data item in Table No. 2.

| <b>Table No. 2 – Data Item for Earned Value Analysis</b> |                                                                                                                                                                                                                                           |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data Item</b>                                         | <b>Definition</b>                                                                                                                                                                                                                         |
| Budgeted Cost of Work Scheduled (BCWS)                   | The budgeted cost of work scheduled for completion at the data date.<br>( $BCWS = \text{Budget Cost} \times \text{Target Percent Complete}$ )                                                                                             |
| Budgeted Cost of Work Performed (BCWP)                   | The value of completed work expressed in terms of the budget assigned to that work. BCWP is also known as the "earned value" of the work completed to date.<br>( $BCWP = \text{Budget Cost} \times \text{Percent Complete of the Work}$ ) |
| Actual Cost of Work Performed (ACWP)                     | The actual cost-to-date for work performed during a specific time period or duration. [The actual cost incurred shall correspond to the cumulative amount shown in payment application for the month.]                                    |
| Schedule Variance (SV)                                   | The Schedule Variance indicates if the project is ahead or behind schedule.<br>( $SV = BCWP - BCWS$ )                                                                                                                                     |
| Cost Variance (CV)                                       | The Cost Variance indicates if the project is over or under budget.<br>( $CV = BCWP - ACWP$ )                                                                                                                                             |
| Estimate To Complete (ETC)                               | The Engineer's estimated cost to complete the design work from the data date to the forecast completion date.                                                                                                                             |
| Estimate At Completion (EAC)                             | The Engineer's projected final cost of the design work at the data date.<br>( $EAC = ACWP_{\text{cumulative}} + ETC$ )                                                                                                                    |

The Engineer shall determine and record the progress of work based on the results of the Schedule Performance Index and Cost Performance Index shown in Table No. 3.

|                                           |
|-------------------------------------------|
| <b>Table No. 3 – Earned Value Indexes</b> |
|-------------------------------------------|

| Description                      | Formula   | Results of EVA Analysis                                                                                                                                                   |
|----------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Schedule Performance Index (SPI) | BCWP/BCWS | A SPI greater than 1.0 indicates no delays to the PDS                                                                                                                     |
|                                  |           | A SPI less than 1.0 indicates that there are delays to the PDS                                                                                                            |
| Cost Performance Index (CPI)     | BCWP/ACWP | A CPI greater than 1.0 indicates the project design is within design budget.                                                                                              |
|                                  |           | A CPI less than 1.0 indicates that the project design budget is over budget.                                                                                              |
| Variance At Completion (VAC)     | BAC-EAC   | Projected final cost over/under the total budgeted cost based on the difference between the value of the Budget at Completion (BAC) and the Estimate at Completion (EAC). |

The Engineer shall use Microsoft excel or equivalent software to provide and summarize the total values for earned valued data shown in Tables No. 2 and Table No. 3 for all activities in the PDS Update.

The Engineer shall provide a cost curve graphic based on the cumulative total values of the BCWS, BCWP, ACWP, BAC, EAC and VAC for each PDS Update. The Engineer shall also show the planned BCWS from each update period to the forecast completion date. See Figure 3 for example of a summary cost curve.

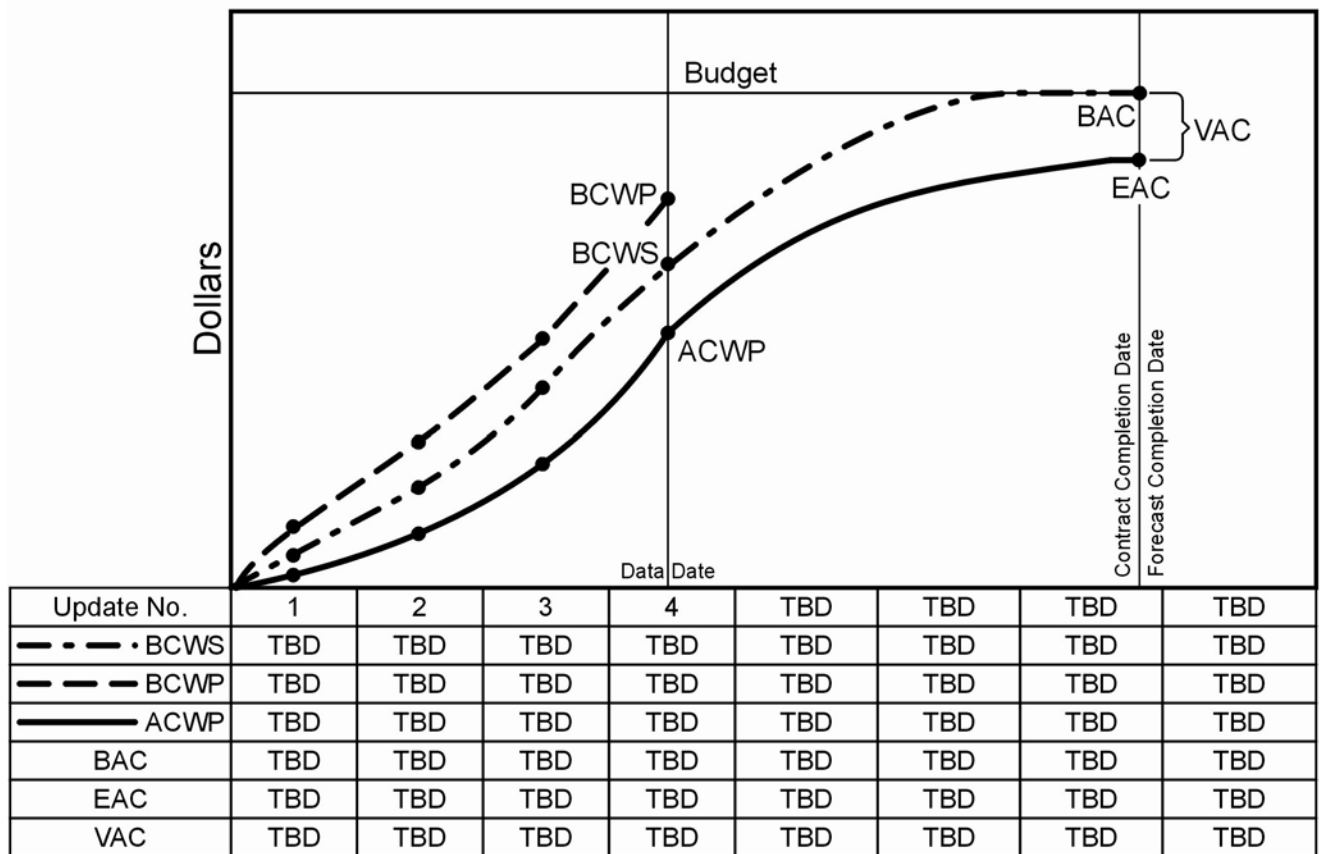


Figure 3 - EVA Summary Cost Curve Graph

The Engineer shall prepare a project analysis report along with a summary of each update period that compares the earned value data on the data date to the cumulative total values for the EVA categories shown in Figure 4 and Figure 5.

COMPANY:

PROJECT NAME:

REPORT PERIOD: 00/00/0000 TO 00/00/0000

| WBS LEVEL 4 /<br>DESCRIPTION | CURRENT PERIOD |    |        |        |        | CUMULATIVE TO DATE |    |        |        |        |
|------------------------------|----------------|----|--------|--------|--------|--------------------|----|--------|--------|--------|
|                              | APPROVED       | EV | ACTUAL | SV \$  | CV \$  | APPROVED           | EV | ACTUAL | SV \$  | CV \$  |
|                              | BUDGET         |    |        | SPI    | CPI    | BUDGET             |    |        | SPI    | CPI    |
| XXXXXX                       | 0              | 0  | 0      | \$0.00 | \$0.00 | 0                  | 0  | 0      | \$0.00 | \$0.00 |
|                              |                |    |        | 0      | 0      |                    |    |        | 0      | 0      |

Figure 4 - Project Analysis Report

| Update No.                   | Data Date | Planned Value Cost (BCWS)  | Actual Cost (ACWP)         | Earned Value Cost (BCWP)   | Schedule Variance (SV)       | Cost Variance (CV) | Schedule Performance Index (SPI) | Cost Performance Index (CPI) |
|------------------------------|-----------|----------------------------|----------------------------|----------------------------|------------------------------|--------------------|----------------------------------|------------------------------|
| 1                            | TBD       | TBD                        | TBD                        | TBD                        | TBD                          | TBD                | TBD                              | TBD                          |
| 2                            | TBD       | TBD                        | TBD                        | TBD                        | TBD                          | TBD                | TBD                              | TBD                          |
| 3                            | TBD       | TBD                        | TBD                        | TBD                        | TBD                          | TBD                | TBD                              | TBD                          |
| TBD                          | TBD       | TBD                        | TBD                        | TBD                        | TBD                          | TBD                | TBD                              | TBD                          |
| Design Phase Completion Date |           | Budget At Completion (BAC) | Estimate To Complete (ETC) | Estimate At Complete (EAC) | Variance At Completion (VAC) |                    |                                  |                              |
| Contract - TBD               |           | TBD                        | TBD                        | TBD                        | TBD                          |                    |                                  |                              |
| Forecast - TBD               |           |                            |                            |                            |                              |                    |                                  |                              |

Figure 5 - Summary of EVA from Project Design Schedule Updates

#### 50.2.4 Progress Monitoring Report

In accordance with Article II, Section 12, the Engineer shall submit each month a Progress Monitoring Report (PMR) for the Authority's review and approval. The PMR shall contain the following information regarding the progress of work performed by the Engineer along with the earned value data specified in Section 50.2.3:

- a. Schedule Tabular Reports and Cost Control Reports, which at a minimum shall include the following:
  - i. Predecessor/successor report sorted by Activity ID.
  - ii. Early Start/Total Float sort report.
  - iii. Total Float/Early Start sort report.
  - iv. Critical Path of Work sort report.
  - v. Summary by Cost Account sort report
- b. A description of the design work completed during the reporting period;
- c. Work items and paths that are critical to the timely completion of the design phase;
- d. Anticipated work to start and finish during the next reporting phase;
- e. Additional design scope items;
- f. Explanations of schedule delays;
- g. Anticipated problems and recommended possible solutions;
- h. Critical action items (listing person/agency/company responsible and date needed);
- i. Explanation of the SPI and CPI results in the PDS Update submitted by the Engineer;
- j. Explanation of the variances between the previous PDS Update's SPI and CPI results to the current results (See Appendix B);
- k. Statement of the adequacy of the remaining design budget and time;

- l. EVA cost curve graph (Similar to Figure 3); summary analysis as shown in Figure 4; and
- m. Project analysis report for WBS Level 4 categories (Figure 4); and
- n. EVA summary analysis as shown in Figure 5.

The PMR shall also include a summary that explains the Basis of Design for each phase of the design. Basis of Design shall consist of a well-defined explanation that forms the basis of the Engineer's inspection, test acceptance criteria, expected performance, and the operational requirements designed for the project and its systems.

The Engineer shall submit the PMR along with the PDS Update with its request for partial payment application.

### **50.3 Revisions to the Project Design Schedules and Earned Value Analysis**

A revision to the Engineer's scope of work due to a change in accordance with Contract Article II, Section 9, *Revisions in the Scope of Work*, Section 13, *Changes*, Section 14, *Excusable Delays*, shall be incorporated into the PDS and EVA.

#### **50.3.1 Project Design Schedule**

The Engineer shall incorporate the proposed change(s) into the appropriate PDS Update as a fragnet(s). The fragnet shall include the following data:

- a. Start Date
- b. Finish Date
- c. Duration
- d. Linked to the appropriate predecessor activity.
- e. Linked to the appropriate successor activity.
- f. Description of the added work.
- g. An Activity identified as the Authority review of the proposed change.

The Engineer shall incorporate the fragnet into the proposed PDS Update identified by the Engineer. The PDS Update with the fragnet shall be identified as the *Project Design Schedule with Proposed Revisions (PDSRV)*. The Engineer shall submit the PDSRV with a detailed report to the Authority for review and acceptance. The detailed report shall discuss the effects of the fragnet on the progress of the design work. The effect of the change to the project's Critical Path shall be stated. Extra work or additional work that does not affect the critical path work will not be considered as the

basis for a time extension. If a revision to the scope of work, change, or an excusable delay increases or decreases the contract duration then the Engineer shall notify the Authority in accordance with Contract Article II, Section 9, *Revisions in the Scope of Work*, Section 13, *Changes*, Section 14, *Excusable Delays*. Upon acceptance and issuance of an amendment for the change, the Engineer shall incorporate the fragnet into the PDS Update, which correspond to the date the Authority approved the change. The PDS Update with the accepted fragnet shall become the *Revised Progress Schedule of Record*.

#### 50.3.2 Earned Value Analysis

The Engineer shall incorporate the cost of the proposed change(s) into the EVA, which corresponds to the proposed PDS with the fragnet. The EVA with the cost of the proposed changes shall be identified as the revised EVA for the PDSRV. The Engineer shall perform the revised EVA in accordance with Section 50.2.3. The Engineer shall submit a detailed report to the Authority for review. The detailed report shall include the results of the EVA, the cost curve graph, and discuss the effects of the proposed change on the Engineer's Estimate-To-Complete (ETC) and Estimate-At-Completion (EAC) along with the earned value indexes shown in Table No. 4. Upon issuance of an amendment for the change, the EVA that includes the cost for approved change(s) shall become the EVA for *Revised Progress Design Schedule of Record*.

#### 50.4 References

The Authority used the following references to develop the earned value requirements for this Special Provision:

1. American National Standard Institute (ANSI) EIA-748-B (September 10, 2007)
2. Department of Defense Earned Value Management Guide (October 2006)
3. Department of Health and Human Services Policy for Earned Value Management (June 11, 2007)

## Appendix A

### EVMS Criterion 1 - ANSI/EIA-748-B, 2.1(a) Organization:

Define authorized work elements for the program. A work breakdown structure (WBS), tailored for effective internal management control, is commonly used in this process.

### EVMS Criterion 2 - ANSI/EIA-748-B, 2.1(b) Organization:

Identify the program organizational structure, including the major subcontractors responsible for accomplishing the authorized work, and define the organizational elements in which work will be planned and controlled.

### EVMS Criterion 3 - ANSI/EIA-748-B, 2.1(c) Organization:

Provide for integration of the company's planning, scheduling, budgeting, work authorization and cost accumulation processes and, as appropriate, the program WBS and organizational structure.

### EVMS Criterion 4 - ANSI/EIA-748-B, 2.2(a) Planning, Scheduling and Budgeting:

Schedule the authorized work in a manner that describes the sequence of work and identifies the significant task interdependencies required to meet the requirements of the program.

### EVMS Criterion 5 - ANSI/EIA-748-B, 2.2(b) Planning, Scheduling and Budgeting:

Identify physical products, milestones, technical performance goals or other indicators used to measure progress.

### EVMS Criterion 6 - ANSI/EIA-748-B, 2.2(c) Planning, Scheduling and Budgeting:

Establish and maintain a time-phased budget baseline at the control account level against which program performance can be measured. Initial budgets established for performance measurement will be based on either internal management goals or the external customer-negotiated target cost, including estimates for authorized (but incomplete) work. Budget for long-term efforts may be held in higher level accounts until it is appropriate for allocation at the control account level.

EVMS Criterion 7 - ANSI/EIA-748-B 2.3(a) Accounting Considerations:

Record direct costs consistently with the budgets in a formal system controlled by the general books of account.

EVMS Criterion 8 - ANSI/EIA-748-B, 2.4(a) Analysis and Management Reports:

At least monthly, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:

1. Comparison of the amount of planned budget and the budget earned for work accomplished. This comparison provides the schedule variance.
2. Comparison of the amount of the budget earned and the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.

EVMS Criterion 9 - ANSI/EIA-748-B, 2.4(f) Analysis and Management Reports:

Develop revised cost estimates at completion based on performance to date, commitment values for material and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements, including statements of funding requirements.

EVMS Criterion 10 - ANSI/EIA-748-B, 2.5(a) Revisions and Data Maintenance:

Incorporate authorized changes in a timely manner, recording the effects in budgets and schedules. Base changes on the amount estimated and budgeted to the program organizations.

## APPENDIX B

### VARIANCE ANALYSIS REPORT

COMPANY:  
PROJECT NAME:  
PDS UPDATE NO.:  
WBS LEVEL 4 DESIGN WORK:

| VALUES ARE IN \$K DOLLARS | SCHEDULE VARIANCE RED FLAG |                 |                      |                              | COST VARIANCE RED FLAG |                |                  |                          |
|---------------------------|----------------------------|-----------------|----------------------|------------------------------|------------------------|----------------|------------------|--------------------------|
|                           | (A)                        | (B)             | (B-A)                | (B/A)                        | (C)                    | (D)            | (C-D)            | (C/D)                    |
|                           | PLANNED<br>VALUE           | EARNED<br>VALUE | SCHEDULE<br>VARIANCE | SCHEDULE<br>PERFORM<br>INDEX | EARNED<br>VALUE        | ACTUAL<br>COST | COST<br>VARIANCE | COST<br>PERFORM<br>INDEX |
|                           | BCWS                       | BCWP            | SV                   | SPI                          | BCWP                   | ACWP           | CV               | CPI                      |
| DATA DATE OF PDS          |                            |                 |                      |                              |                        |                |                  |                          |
| CUMULATIVE                |                            |                 |                      |                              |                        |                |                  |                          |

(1) CAUSE OF SCHEDULE VARIANCE:

(2) CAUSE OF COST VARIANCE:

(3) PROPOSED SOLUTION/CORRECTIVE ACTION:

(4) IMPACT ON PROJECT SCHEDULE / COST:

(5) COMMENT:

DESIGN CONSULTANT PROJECT MANAGER: \_\_\_\_\_

DATE: \_\_\_\_\_

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## **LIST OF ATTACHMENTS**

|              |                                                             |
|--------------|-------------------------------------------------------------|
| Attachment A | Conflict of Interest                                        |
| Attachment B | Current SDO Certification Letter (Consultant shall submit)  |
| Attachment C | DBE Schedule of Participation (Form A)                      |
| Attachment D | DBE Affidavit (Form B)                                      |
| Attachment E | DBE Unavailable Certification (if applicable)               |
| Attachment F | DBE Letter of Interest                                      |
| Attachment G | Certification regarding Debarment                           |
| Attachment H | Certifications on Restrictions on Lobbying                  |
| Attachment I | Child Care Compliance Certification                         |
| Attachment J | Certificate of Non-collusion                                |
| Attachment K | Financial Determination                                     |
| Attachment L | OSHA Training                                               |
| Attachment M | Executive Order 481 Prohibiting Use of Undocumented Workers |
| Attachment N | MBTA Retiree Disclosure                                     |
| Attachment O | Owner's Representative Certification (if applicable)        |

**ATTACHMENT A  
CONFLICT OF INTEREST  
DISCLOSURE STATEMENT**

\_\_\_\_\_ certifies that it has no real or perceived conflict of interest in relation to services of the MBTA contract agreement for \_\_\_\_\_ and furthermore to take any action or supply any information necessary should a conflict of interest arise.

Authorized Signature: \_\_\_\_\_

Title or Position: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT C  
SCHEDULE OF PARTICIPATION  
OF  
DISADVANTAGED BUSINESS ENTERPRISE**

**Project No.** \_\_\_\_\_  
**Location:** \_\_\_\_\_

| <b>Name of<br/>Disadvantaged<br/>Business</b> | <b>Address</b> | <b>Type of Work and<br/>Contract Items or Parts<br/>Thereof to be Performed</b> | <b>NAICS<br/>Code(s)</b> | <b>Projected<br/>Start and<br/>Finish<br/>Date for<br/>Work</b> | <b>Agreed<br/>Price</b> |
|-----------------------------------------------|----------------|---------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------|-------------------------|
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |
|                                               |                |                                                                                 |                          |                                                                 |                         |

**Name of Respondent:** \_\_\_\_\_

**A copy of the DBE's most recent certification and an original affidavit must be attached to this**

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**schedule.**

**ATTACHMENT D  
DBE AFFIDAVIT**

Form C No. \_\_\_\_\_

MBTA Contract No. \_\_\_\_\_

State of \_\_\_\_\_ (Date) \_\_\_\_\_

County of \_\_\_\_\_ S.S.

The undersigned being duly sworn, deposes and says that he/she is the

---

(sole owner; partner; president; treasurer; or other duly authorized official of a corporation)

of \_\_\_\_\_  
(Name of DBE)

and certifies that since the date of its certification by Massachusetts Supplier Diversity Office (SDO) to perform work in the following NAICS Code(s):

\_\_\_\_\_  
NAICS Code(s)

The certification has not been revoked nor has it expired nor has there been any change in the minority status of

---

(Name of DBE)

\_\_\_\_\_  
(Signature and Title of  
Person Making Affidavit)

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Notary Public)

Note: The Bidder must attach the DBE's most recent certification letter or document to this affidavit.

**ATTACHMENT E  
DBE  
UNAVAILABLE CERTIFICATION**

I, \_\_\_\_\_, \_\_\_\_\_  
(name) (title)

of \_\_\_\_\_, certify that on \_\_\_\_\_  
(prime bidder) (date)

I contacted the following Disadvantaged Business Enterprise to obtain an estimate for work items to be performed on MBTA Contract No. \_\_\_\_\_.

| Disadvantaged Respondent | Work Items Sought |
|--------------------------|-------------------|
| _____                    | _____             |
| _____                    | _____             |
| _____                    | _____             |

To the best of my knowledge and belief, said Disadvantaged Business Enterprise was unavailable for work on this project, or unable to prepare an estimate for the following reason(s):

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ was offered an opportunity to respond on above-referenced work on \_\_\_\_\_ by \_\_\_\_\_.  
(name of business enterprise)

| _____ | _____  |
|-------|--------|
| Date  | Source |

The above statement is a true and accurate account of why I did not submit an estimate on this project.

\_\_\_\_\_  
Signature of DBE Authorized Representative

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

A separate unavailability certification form should be completed for each DBE.

**ATTACHMENT F**  
**DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION**  
**LETTER OF INTENT**

MBTA Contract No. \_\_\_\_\_  
Description: \_\_\_\_\_

To: \_\_\_\_\_  
(Name of Prime Respondent)

The undersigned intends to perform work in connection with the above project as (check one):

\_\_\_\_\_ individual      \_\_\_\_\_ DBE      \_\_\_\_\_ partnership      \_\_\_\_\_ joint venture

The Disadvantaged Business status of the undersigned is confirmed

- 1      on the reference list of Disadvantaged Business Enterprises dated \_\_\_\_\_ or  
2      on the attached Disadvantaged Business Enterprise identification Statement.

The undersigned is prepared to perform the following work in connection with the above project.  
(Specify in detail particular work items or parts thereof to be performed and specify for each work item the applicable NAICS code for which the undersigned is certified):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

At the following price: \_\_\_\_\_

You have projected the following commencement date for such work, and the undersigned is projecting completion of such work as follows:

| Projected<br>Items | Projected<br>Commencement Date | Completion Date |
|--------------------|--------------------------------|-----------------|
| _____              | _____                          | _____           |
| _____              | _____                          | _____           |
| _____              | _____                          | _____           |

The above work will not be sublet to a non-Disadvantaged Business Enterprise at any tier. The undersigned will enter into a formal agreement for the above work with you, conditioned upon your execution of a contract with the MBTA.

Date \_\_\_\_\_  
Name of Disadvantaged Business Enterprise \_\_\_\_\_

By Authorized Representative \_\_\_\_\_

**ATTACHMENT G**  
**GOVERNMENT-WIDE DEBARMENT**  
**AND SUSPENSION**

**By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below.**

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Authority may pursue available remedies, including suspension and/or debarment.
2. The prospective lower tier participant shall provide immediate written notice to the Authority if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
3. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the Authority for assistance in obtaining a copy of those regulations.
4. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the Authority.
5. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Service Administration.
7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
8. Except for transactions authorized under Paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the Authority may pursue available remedies including suspension and/or debarment.

**"Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion  
Lower Tier Covered Transaction"**

The prospective lower tier participant certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 49 C.F.R. § 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

---

Name

---

Firm

---

Date

**ATTACHMENT H**  
**CERTIFICATION OF RESTRICTIONS ON LOBBYING**  
APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING

The undersigned [Engineer] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such expenditure or failure.]

The Engineer, \_\_\_\_\_, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Engineer understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq.*, apply to this certification and disclosure, if any.

\_\_\_\_\_ Signature of Engineer's Authorized Official

\_\_\_\_\_ Name and Title of Engineer's Authorized Official

\_\_\_\_\_ Date

**ATTACHMENT I  
CERTIFICATION OF COMPLIANCE  
CHILD CARE  
REGULATION 102 CMR 12.00**

The undersigned hereby certifies that, if awarded this contract, he/she will comply, to the extent required by law, with Section 7 of Massachusetts General Law, Chapter 521 of the Acts of 1990, as amended by Chapter 329 of the Acts of 1991 and the Massachusetts Executive Office of Health and Human Services – Office of Children – Regulation 102 CMR 12.00.

Signature: \_\_\_\_\_  
Authorized Representative

Position: \_\_\_\_\_

Company Name: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT J**  
**CERTIFICATE OF NON-COLLUSION**

The undersigned certifies under penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club, or organization, entity, or group of individuals.

Signature: \_\_\_\_\_

Position: \_\_\_\_\_

Company Name: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT K**  
**FINANCIAL RESPONSIBILITY QUESTIONNAIRE**

The Federal Transit Administration Circular 4220.1F requires the MBTA to determine consultants' financial responsibility prior to awarding a contract. In consideration of this requirement, please complete the form below:

Please attach to this form certified financial statements for the last three fiscal years. If certified financial statements are not available, provide financial statements sworn to by the firm's Chief Financial Officer.

The undersigned hereby certifies under penalty of perjury that to the best of his/her knowledge, the following information is true and accurate.

**Current Ratio:** \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Current Assets Current Liabilities

**Return on Assets:**  
Year 1: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Assets

Year 2: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Assets

Year 3: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Assets

**Operating Profit:**  
Year 1: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Net Revenue

Year 2: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Net Revenue

Year 3: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Net Revenue

**Return on Equity:**  
Year 1: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Net Assets  
(Equity)

Year 2: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Net Assets  
(Equity)

Year 3: \_\_\_\_\_ ) \_\_\_\_\_ = \_\_\_\_\_  
Operating Income Total Net Assets  
(Equity)

\_\_\_\_\_  
Firm Name Date

June 16, 2014

Authorized Signature

Authorized Name

Title

June 16, 2014

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**ATTACHMENT L**

**United States Occupational Safety and Health Administration  
Personnel Training Certification**

By signing and submitting this bid or proposal, the prospective participant is providing the signed certification set out below.

That all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee. (M.G.L. Chapter 30 Section 39M as amended by Chapter 306 of the Acts of 2004)

\_\_\_\_\_  
Name of person signing the proposal

\_\_\_\_\_  
Title of person signing the proposal

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

**ATTACHMENT M**  
**Consultant Certification**  
**Undocumented Workers**

**Consultant Legal Name:** \_\_\_\_\_

**INSTRUCTIONS:**

Executive Order 481 applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in the connection with the performance of state and federal contracts, all contracts entered after February 23, 2007 require that consultants, contractors and vendors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

As evidence by the signature of the Authorized Signatory below, the Consultant certifies that under the pains and penalties of perjury that the Consultant shall not knowingly use undocumented workers in the connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Consultant, shall verify the immigration status of all workers assigned to such contract without engaging in unlawful discrimination; and that the Consultant shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Consultant understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Consultant to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

\_\_\_\_\_  
Authorized Signature

Date: \_\_\_\_\_

\_\_\_\_\_  
Print Name

Title: \_\_\_\_\_ Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_ Email: \_\_\_\_\_

The Consultant is required to sign this Certification and may provide a copy of the signed Certification for any contract executed with Executive Branch Department. A copy of this signed Certification must be attached to the "record copy" of all

contracts with Consultants with the Contracting Department.

**ATTACHMENT N**  
**Consultant Certification**  
**MBTA Retiree Participation Disclosure**

In accordance with the MBTA Hiring of MBTA Retirees Policy, Section 3.3 dated June 5, 2009, THE CONSULTANT AND/OR CONTRACTOR IS REQUIRED TO NOTIFY THE MBTA THAT A MBTA RETIREE HAS BEEN INCLUDED AS A MEMBER OF ITS TEAM.

Every consultant and/or contractor is required to notify the MBTA as part of the bidding process that a MBTA retiree will be included as a member of its team. The consultant and/or contractor shall be required to provide the name and date of retirement for each MBTA retiree on the team. Every MBTA retiree working for the MBTA under this condition shall do so in accordance with MGL, Chapter 268A, Section 5.

The Consultant certifies that the following MBTA Retirees are assigned to the team for this contract. Use additional pages as necessary.

**Project Name:** \_\_\_\_\_

| <u>Firm Name</u> | <u>Retiree Name</u> | <u>MBTA Retirement Date</u> |
|------------------|---------------------|-----------------------------|
|------------------|---------------------|-----------------------------|

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

\_\_\_\_\_  
Name of person signing the proposal

\_\_\_\_\_  
Title of person signing the proposal

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

Effective June 5, 2009

June 16, 2014

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**ATTACHMENT O  
(If applicable)**

**Certificate of Responsibility and Independence  
of Owner's Representative**

By signing and submitting this certificate, the prospective participant is providing the signed certification set out below.

The Owner's Representative certifies under the pains and penalties of perjury that the Owner's Representative's sole responsibility shall be to the Commonwealth and the Massachusetts Bay Transportation Authority. The Owner's Representative further attests that the Owner's Representative shall be wholly independent of the designer, the general contractor or any subcontractor involved in the project.

Signed under pains and penalties of perjury.

\_\_\_\_\_  
Signature of Owner's Representative

\_\_\_\_\_  
Name of Owner's Representative

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date